

Docket No.: 242831US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

GROUP: 1796

Hiroshi TAKEI, et al.

SERIAL NO: 10/667,671

EXAMINER: ZIMMER

FILED: September 23, 2003

FOR: HEAT CONDUCTIVE SILICONE RUBBER COMPOSITE SHEET

DECLARATION UNDER 37 C.F.R. § 1.132

COMMISSIONER FOR PATENTS

ALEXANDRIA, VIRGINIA 22313

Sir:

Now comes Akio SUZUKI who deposes and states that:

1. I am a graduate of OSAKA UNIVERSITY and received my bachelor's degree in the year 1975.

2. I have been employed by Shin-Etsu Chemical Co., Ltd. for 33 years as a researcher for R&D in the field of applications of silicones.

3. The materials used for the intermediate layers of the present invention are non-porous. This is evidenced by the enclosed product information sheets (5 pages, which are incorporated herein by reference) of TEONEX which is a polyethylene-naphthalate (PEN) film from Teijin DuPont Films. TEONEX is used in Example 3 at page 15, line 6 of the specification as a material for the intermediate layer. TEONEX is non-porous and thus no pore size is specified.

4. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief

are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

5. Further deponent saith not.

Akio Suzuki
Akio SUZUKI

January 28, 2008
Date

Customer Number
22850
Tel. (703)413-3000
Fax. (703)413-2220
(OSMMN 05/06)

Mylar®, Melinex®, Teijin® Tetonex® and Teonex® PET/PEN polyester films, only from Teijin DuPont Films.



Teijin DuPont Films

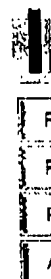
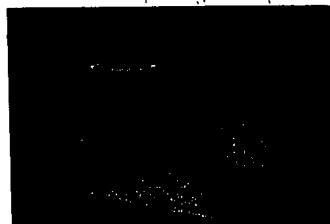
Innovation for Growth

Japanese

HOME > PRODUCTS

■ PRODUCTS

Introduction of products, applications and properties



PRODUCTS

Applications

PRODUCTS

PET Film

PET Film (Bi-axially oriented polyethylene terephthalate film) has earned a world-wide reputation as a key material with a good cost performance in a range of industrial applications. In addition to well balanced chemical and physical properties, our PET Film has taken an excellent position in the PET Film industry because of its superior quality, uniformity and consistency.

Teijin® Tetonex® Film

MLF (Multilayer Film)

HFF (Highly Formable Film)

Melinex®

Mylar®



PEN Film has many superior properties such as strength, heat resistance, anti-hydrolysis, dimensional stability, low oligomer extraction, etc. This excellent film has the potential to replace other engineering films with good cost performance. PEN Film also has the same handling properties as PET Film. It is expected to be applicable for advanced uses in new markets.

• Teonex®

Comparison of characteristics between PEN and other engineering plastics

Processed Film

"Processed Films" are highly functional films with additional chemical and/or physical treatment on Teijin® Tetonex®, Teonex® polyester Films. We are offering Processed Films as custom made products provided by a wide range of Teijin DuPont Films advanced chemical technologies. We have a continuing commitment to provide innovative solutions to emerging markets, especially in electronics and optical material applications.

Purex®

Current Fine®

Sand Matte Film

Super low shrinkage Film

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Applications

Industrial	Packaging
Electrical insulation	Film laminated can
Capacitor	General packaging
Processing Film	
etc.	etc.

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Privacy Statement

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Teonex®, Purex®, HFF™, and Currentline™ are the registered trademark and trademarks of Teijin DuPont Films Japan Limited. Mylar® and I of DuPont Teijin Films U.S. Limited Partnership and are licensed to Teijin DuPont Films Japan Limited. Teijine and Teforone are registered trademarks of Teijin DuPont Films Japan Limited.

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HOME > PRODUCTS > PEN Film > Teonex®

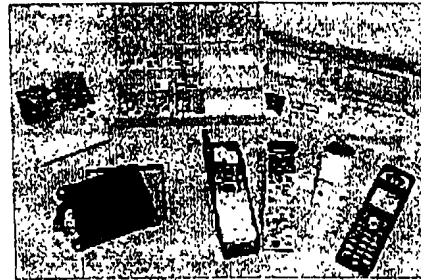
■ PEN Film

Teonex®

Product Outline

Teonex® is the world's first polyethylene-naphthalate (PEN) film developed and commercialized by Teijin.

Teonex® has many superior properties such as strength, heat resistance, anti-hydrolysis, dimensional stability, low oligomer extraction, etc. Teonex® is used for high density data storage tapes. It is also used in electronic components such as capacitors, motors, transformers, flexible printed circuits, and for optical purposes.



Exceptional strength Young's modulus PEN

Very thin film (approximately 1 micron) is available due to PEN having a high modulus which makes handling easy.

Excellent electrical insulation

The properties dielectric dissipation factor, $\tan \delta$, and dielectric constant (ϵ) of PEN film are virtually constant over a wide temperature range and frequency domain.

Excellent heat stability

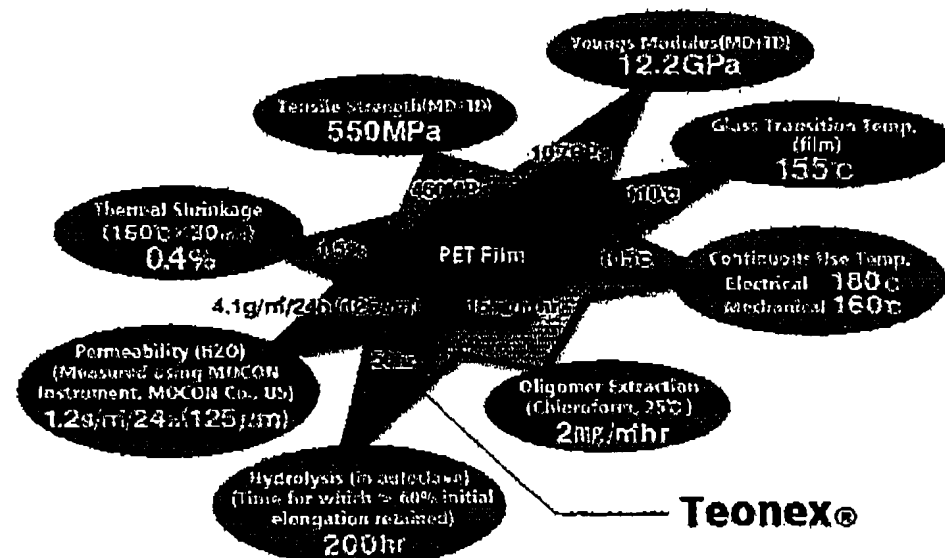
PEN film has UL746 certification which corresponds to an "F grade" in thermal performance.

Excellent resistance to organic solvents and chemicals

High durability and hydrolysis resistance










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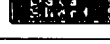


Comparison between Teonex® and PET Film

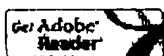


 Material Safety Data Sheet

 Technical Data Sheet

Property	Film Type	Standard Thickness (micron)	Characteristics	Typical Applications	Full Download
Standard	Q51	12,16,25,38, 50,75,100, 125,168,250	Standard grade with good heat resistance and mechanical properties.	Insulation, Speaker, MTS, Packaging, Processing film	 
Adhesion	Q51DW	25,50	Pretreated on both sides for adhesion.	Insulation	 
Low heat shrinkage	Q81	25,38,50, 75,100,125	Very low heat shrinkage type treated by off-line process.	FPC, RFID	 
Super low heat shrinkage	Q83	25,50,75,125	Extremely low heat shrinkage type treated by off-line process. Capability for soldering	FPC, RFID, Heat resistant label, processing film for semiconductor	 
Super clear	Q85F	100,125,200	Super clear type for optical uses. Excellent heat	OLED, electric paper, PV-cell	

			stability		  
	Q65FA				
Ultra thin	Q72	1.2-12.0	Ultra thin film with good handling properties.	Capacitors	 



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